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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/536,611	04/28/2006	Mysore Narayan Rekha	027927.00002	2254
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ARENT FOX LLP 1675 BROADWAY NEW YORK, NY 10019			EXAMINER KRAUSE, ANDREW E	
			ART UNIT 1794	PAPER NUMBER
			NOTIFICATION DATE 06/26/2009	DELIVERY MODE ELECTRONIC

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

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Patent\_Mail@arentfox.com

<b>Office Action Summary</b>	<b>Application No.</b> 10/536,611	<b>Applicant(s)</b> REKHA ET AL.	
	<b>Examiner</b> ANDREW KRAUSE	<b>Art Unit</b> 1794	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☒ This action is **FINAL**.                      2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☐ Claim(s) 1-4 and 7 is/are pending in the application.  
4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-4 and 7 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |   |   |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. ____. |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)  | 5) <input type="checkbox"/> Notice of Informal Patent Application                       |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)<br>Paper No(s)/Mail Date <u>3/9/09</u> . | 6) <input type="checkbox"/> Other: ____.  |

## **DETAILED ACTION**

### ***Oath/Declaration***

Upon reconsideration, the objection to the declaration set forth in the previous office action is withdrawn.

### ***Claim Rejections - 35 USC § 112***

1. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

2. Claim 3 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

3. Given the amendments to claim 1, the scope of claim 3 is unclear. It is unclear which pulpy fruits are being liquefied, and the range of viscosity reduction does not align with either step of viscosity reduction.

### ***Claim Rejections - 35 USC § 103***

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Art Unit: 1794

5. **Claims 1-3,7** are rejected under 35 U.S.C. 103(a) as being unpatentable over Fabricant, 'Jam-Making Today' (NPL 1) in view of Dalboege (6,159,718), 'more juice from apples' (NPL 2), Haddad (6,620,452), and Ashourian (5,849,350).

6. Fabricant discloses a method of making a fruit spread comprising mixing a fruit juice concentrate with fruit pulp in an amount of 20% by weight of the fruit pulp to obtain a mixture, and then boiling the mixture to obtain a fruit spread (page 5, paragraph 2-end).

7. Fabricant fails to disclose the manner in which the juice concentrate is prepared. Dalboege discloses a method of producing apple juice in which apple mash (crushed apple) is treated with a pectinolytic enzyme in amount effective for degrading the pectin and reducing the viscosity in order to improve juice extraction (column 9, lines 10-30). It would have been obvious to one having ordinary skill in the art at the time of the invention to modify the juice used in Fabricant by using juice extracted using pectinolytic enzymes as in Dalboege, as enzyme extracted juices give higher yields, and are thus more cost effective (Dalboege, column 9, lines 10-30). Dalboege further discloses the temperature optimum of a suitable pectinolytic enzyme for treating fruit juices to be around 40 C (Fig.6). NPL 2 further discloses suitable conditions for juice production using pectinase enzymes, and discloses adding pectinase to apple pulp in amounts between for 15-120 minutes at 30 C in order to increase yields of apple

Art Unit: 1794

juice (commercial juice production). It would have been obvious to combine these conditions with the disclosure of Fabricant and Dalboege in producing a fruit spread in order to provide a high yield of juice using pectinase. NPL 2 further discloses using an amount of pectinase for juice production ranging from 0.0001-2% (commercial juice production and procedure), and given the disclosure of Dalboege (column 9, lines 10-25) establishes the quantity of pectinase used as a result effective variable capable of being optimized depending on the desired level of pectin degradation and viscosity reduction.

8. Dalboege and NPL 2 fail to disclose the deactivation of the enzyme; however, Haddad discloses deactivating pectinase in fruit products by heat treating the enzyme containing solution at 60-93 C after the pectinase activity has been used. It would have been obvious to one having ordinary skill in the art to modify Fabricant, Dalboege and NPL 2 by deactivating the pectinase enzyme in order to prevent action of the enzyme following the desired time period.

9. Following the heating step, it would be obvious to one having ordinary skill in the juice processing art to chill the mixture in order to prevent degradation of volatile compounds in the juice, and it would be obvious to strain the mixture in order to remove the pulp to obtain a smooth textured juice.

10. Dalboege, NPL 2 and Haddad fail to disclose concentrating the juice.

However, Ashourian discloses concentrating apple juice to 70 brix (example 2) to

Art Unit: 1794

obtain an apple juice concentrate, and it would be obvious to concentrate the apple juice of Dalboege, NPL 2 and Haddad to such a degree as it is well known in the art to preserve the juice and provide it in a convenient form.

11. Fabricant further fails to disclose treating the fruit pulp (pear) with pectinase as claimed. However, Dalboege discloses treating processed fruit (such as the pears disclosed in Fabricant above) with pectinolytic enzymes. It would have been obvious to one having ordinary skill in the art at the time of the invention to treat the fruit pulp disclosed in Fabricant with a pectinolytic enzyme as disclosed in Dalboege in order to provide a pulp with regulated consistency and appearance (column 9, lines 35-50). As disclosed above, the conditions used would have been obvious to one having ordinary skill in the art at the time of the invention given the disclosures of Dalboege, and NPL 2.

12. As disclosed above, Fabricant in view of the cited references discloses combining the fruit juice concentrate claimed with the pulp claimed, which will therefore result in a mixture having the claimed Brix level. Fabricant further discloses boiling the mixture to attain a fruit spread (Step 3), and that the final fruit spread must contain 65% soluble solids (around 65 brix) which is substantially close to the claimed 68 Brix, and will have the same properties (p. 2 paragraph 3).

Art Unit: 1794

13. Regarding claim 2, Fabricant discloses using apple juice concentrate, and pear. However, it would have been obvious to one having ordinary skill in the art at the time of the invention to change the pear disclosed in Fabricant to an apple as an obvious choice of desired taste.

14. Regarding claim 3, as disclosed above, the degree of viscosity reduction is adjustable based on the desired reaction conditions.

15. Regarding claim 7, Dalboege discloses that a potential enzyme is a pectinase (i.e. pectin degrading) has a polygalacturonase activity between 1000-2000 U/mg (column 6, lines 40-50), and further discloses combining the enzyme with enzymes having other functions such as pectin methyl esterase (column 8, lines 60-67). As the level of enzyme activity depends on numerous factors, such as tempertaure, pH, and substrate availability, adjustment of the activity of the added pectin methylesterase would be adjustable to the claimed range by one having ordinary skill in the art in order to sufficiently degrade pectin for the intended purpose.

16. **Claim 4** is rejected under 35 U.S.C. 103(a) as being unpatentable over Fabricant, 'Jam-Making Today' (NPL 1) in view of Dalboege (6,159,718), 'more juice from apples' (NPL 2), Haddad (6,620,452), Ashourian (5,849,350) and Mouri (4,275,648).

Fabricant, NPL 1, Dalboege, NPL 2, Haddad and Ashourian disclose the method of claim 1, but fail to disclose the manner in which the juice is concentrated. However, Mouri

Art Unit: 1794

discloses However, Mouri et al disclose a method for concentrating similar fruit concentrates using a thin film evaporator (column 6, lines 35-40). It would have been obvious to one having ordinary skill in the art at the time the invention was made to adjust the temperature and system pressure to adjust the efficiency and rate of concentration for the intended application, since it has been held that discovering the optimum value of a result effective variable involves only routine skill in the art. 10. It would have been obvious to one having ordinary skill in the art at the time of the invention to use a thin film evaporator as disclosed by Mouri et al to perform the concentration of, because thin film evaporators are efficient devices for concentrating liquids (Mouri, column 6, lines 35-40).

### *Response to Arguments*

17. Applicant's arguments with respect to claims 1-4,7 have been considered but are moot in view of the new ground(s) of rejection.

### *Conclusion*

18. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the



Art Unit: 1794

advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to ANDREW KRAUSE whose telephone number is (571)270-7094. The examiner can normally be reached on 7:30-5.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Keith Hendricks can be reached on (571)272-1401. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Art Unit: 1794

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/ANDREW KRAUSE/  
Examiner, Art Unit 1794

/KEITH D. HENDRICKS/  
Supervisory Patent Examiner, Art Unit 1794